Correspondence

The Editorial Board will be pleased to receive and consider for publication correspondence containing information of interest to physicians or commenting on issues of the day. Letters ordinarily should not exceed 600 words, and must be typewritten, double-spaced and submitted in duplicate (the original typescript and one copy). Authors will be given an opportunity to review any substantial editing or abridgment before publication.

Mesothelioma in Shipyard Workers

TO THE EDITOR: Mesothelioma of the pleura and peritoneum is still considered a rather rare pathologic entity although there is evidence that the incidence is increasing.[1] The association of mesothelioma with exposure to asbestos has been confirmed and found to be very strong in many parts of the world.[2] Workers in shipyard occupations, where asbestos has been used extensively for insulation of the steam plant of ships, have been shown to have an increased risk of mesothelioma by several investigators.[2]

The purpose of this communication is to document the expected excess of mesothelioma among shipyard workers of the Puget Sound area in Washington state and to show the simplicity of doing so using only readily available vital statistics documents.

All death certificates with mesothelioma listed as a cause of death were identified for the years 1968 through 1976 for four counties in the Puget Sound region of Washington. From each death certificate the age and usual occupation of the person were obtained. Two matched controls were chosen for each case by proceeding forward in the death files and selecting the first two certificates that matched the case certificate for sex, ten-year age group and county of residence at death, as well as showing a diagnosis other than mesothelioma.

Tests of significance were carried out according to the methods of Miettinen as recommended for individual matching with two or more controls.[3]

Totals of 40 cases in men and 12 cases in women were found for this study period. The mean age of these men was 66.2 ± 10.8 years and of the women, 60.5 ± 14.5 years. The number of cases in men and the approximate mesothelioma death rates per million men age 30 and over for each county are the following: King, 24 and 10.2; Kitsap, 9 and 42.1; Pierce, 6 and 7.8; Snohomish, 1 and 1.9.

The analysis of occupations shows no significant results for women or for male residents of Pierce or Snohomish counties. However, analysis of occupations of male residents of King and Kitsap counties combined indicates that in 30.3 percent of cases the men were employees of the Puget Sound Naval Shipyard (PSNS) in Bremerton, Washington (Kitsap County), as compared with only 7.6 percent of controls. With a two-tailed test and continuity correction applied this is a significant difference ($p<0.01$).

A similar analysis of Kitsap county cases alone also shows a significant ($p<0.02$) excess of persons with mesothelioma to be employees of PSNS (88.9 percent of cases versus only 22.2 percent of controls). Analysis of King County cases alone does show an excess of PSNS employees (8.3 percent of cases versus 2.1 percent of controls), but the difference is not significant.

The results of this study are in agreement with previous investigations which indicated that shipyard workers are at increased risk of mesothelioma developing. This is, however, the first published report of the association between shipyard workers of the Pacific Northwest and mesothelioma and indicates a small epidemic of mesothelioma cases in Kitsap County, Washington.

A great variety of occupations were found among the mesothelioma cases in persons employed by PSNS, including ship fitter, foreman, rigger, foundry worker, boiler maker, engineer, maintenance supervisor, pipe fitter and sheet metal worker. This variety of occupations probably indicates that significant indirect exposure to asbestos was common among shipyard workers during World War II and immediately thereafter. However, the actual type of work done 20 or 30 years before the death of the men in these cases is uncertain because death certificates only show the kind of work done during most of the deceased person's working life.

Occupational exposure to asbestos has been coming under increasing control over the past three decades and more stringent standards have

been forthcoming as our knowledge of the health effects of exposure increases.[4] Chronic diseases, and in particular cancer, are a major cause of morbidity and mortality in industrial nations. The control of occupational carcinogens can contribute significantly to a reduction of the future cancer burden. Although this study was not carried out to test a new hypothesis of occupational carcinogenesis, but rather to document a proven relationship in a population not previously examined, the method used can be a quick and simple approach when a occupational cause of a lethal disease is suspected.

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3. Miettinen OS: Individual matching with multiple controls in the case of all-or-none responses. Biometrics 25:339-355, Jun 1969
4. Revised Recommended Asbestos Standard. US Department of Health, Education, and Welfare, National Institute of Occupational Safety and Health, Dec 1976.

Information Systems for Small Medical Communities

TO THE EDITOR: The letter "Concerning Libraries in Smaller Hospitals," which appeared in the December 1977 issue, was of great interest to us. While several hospitals may employ a single librarian to rotate among them, unifying a library system within these hospitals is only one solution to the problem. For those facilities that have the financial fortune to afford a librarian the problem is resolved. However, most communities neither have the financial capacity nor the personnel with credentials to undertake such a project.

In the contemporary era where the body of medical knowledge grows in great proportion each day there is a library need to be met in many medical communities without the asset of a librarian. The reference made to conference rooms or physicians' lounges with bookshelves crammed with outdated medical texts and old journals is too frequently a sad reality. Someone must maintain the library—either a permanent or rotating librarian, or, as we shall suggest below, designated personnel.

Using our family practice center of 13 generalists, 7 specialists, 2 family nurse practitioners and 1 physician's assistant as an example, we would like to give our solution of the library problem. It should be noted that our facility is a preceptor site for the medical students and family nurse practitioners for the University of California campuses of Irvine, Davis and San Francisco, as well as for the physician's assistant program at Stanford University. As a teaching-training facility we are obliged to maintain extensive and readily accessible educational resources for ourselves and our preceptees.

We approached the library situation from three angles. Our first source of medical literature is our library (with its standard texts of anatomy, physiology, specific diseases and treatments), which is quite rudimentary. However, we extended our library beyond the medical school texts to the practical integration of diseases by purchasing a basic set of the Harper & Row's encyclopedias which cover all fields of medicine. These encyclopedias are clinically oriented and periodically updated with annual supplements, in addition to monthly international medical and surgical digests, complemented by a consulting bureau for literature needs, provided free of charge to all active subscribers. With this service outdated medical texts can be eliminated.

Second, we instituted a Master Medical Index System, which is an expansion of the Master Medical Index System designed by References and Index Services, Inc. for maintaining abstracts. This source covers every phase of medicine, subdividing into the different anatomical systems which are ultimately subdivided into specific diseases and therapeutic entities. Frequently overlooked aspects of medicine—that is, historical and social factors, new concepts and innovations, and whatever modifications one might wish to emphasize—are included.

This method is not costly to maintain, nor does it require a librarian. The index system is conveniently alphabetized and requires minimal space, as compared with a library of books and bound journals covering the same information. We are using eight 4-foot file cabinets. Each month members of the group contribute from their particular journals pertinent articles, which insures new and current material being available. As an example, a contributor may submit an article related to feeding problems of premature newborn infants. This article, representing the most recent concept in this field, would be filed in the Pediatric Section under: A. Newborn, 2. Premature newborn, b. Feeding—along with many other articles relative to the same topic. This system represents over 20 years of concepts, therapies and trends, and